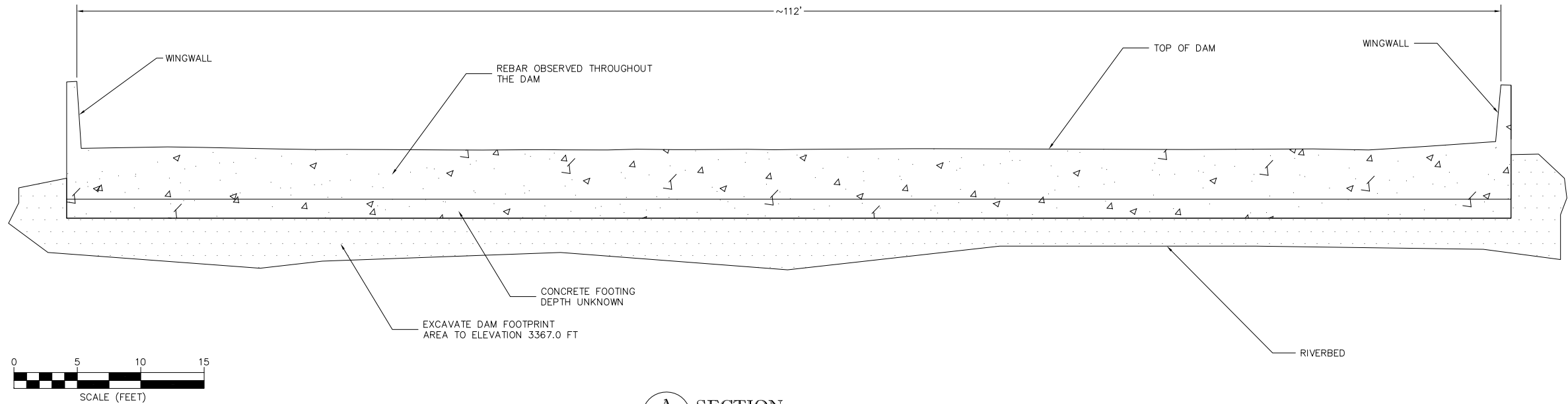


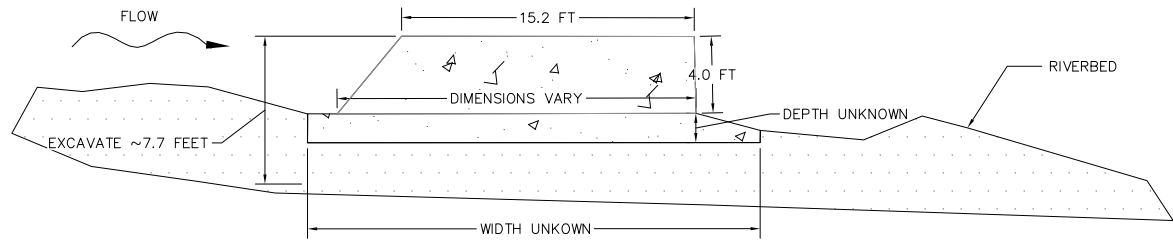
- NOTES:
1. ALL REMOVED CONCRETE IS TO BE PLACED IN EITHER OPTION 1 AREA OR OPTION 2 AREA AS SHOWN ON THE PLANS. THE OWNER WILL DECIDE ON WHICH AREA WILL BE USED FOR DISPOSAL. REFER TO SPECIFICATIONS.
 2. ALL INGRESS/EGRESS AREAS TO BE RECLAIMED TO PRE-PROJECT REMOVAL CONDITION AND STABILIZED AS PER THE PLANS.
 3. ALL EQUIPMENT OPERATING INSIDE THE RIVER CHANNEL MUST BE INSPECTED DAILY FOR ANY LEAKAGE.
 4. CONTRACTOR SHALL COMPLY WITH ALL PERMITS.
 5. COFFER DAMS SHALL BE RECLAIMED/LEVELED TO A MAXIMUM HEIGHT OF ONE FOOT ABOVE NATURAL RIVER BOTTOM.
 6. CONTRACTOR SHALL CONTACT AND COORDINATE WITH ANY ADJACENT LANDOWNERS BEFORE UTILIZING ANY PRIVATE ROADWAYS.
 7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR LOCATING ALL UNDERGROUND UTILITIES BY NOTIFYING "ONE CALL" AT LEAST TWO BUSINESS DAYS PRIOR TO BEGINNING CONSTRUCTION.
 8. ALL DIMENSIONS SHOWN ARE IN DECIMAL FEET.
 9. ACTUAL DAM STRUCTURE DIMENSIONS TO BE MEASURED AND RECORDED DURING DEMOLITION PHASE.
 10. REINFORCEMENT STEEL WAS OBSERVED BY THE ENGINEER IN THE DAM.
 11. CONSTRUCTION SHALL COMPLY WITH THESE PLANS AS WELL AS THE CONTRACT DOCUMENTS AND SPECIFICATIONS.
 12. DUE TO THE COMPLEXITY INVOLVED, THE CONTRACTOR SHALL COORDINATE WITH THE OWNER'S REPRESENTATIVE DURING ALL ASPECTS OF THE RIVERBANK RECONSTRUCTION PROCESS. THE OWNER'S REPRESENTATIVE SHALL APPROVE THE LOWER FES LIFT BEFORE THE CONTRACTOR PROCEEDS WITH THE UPPER LIFT.

NO.	REVISIONS	DRAWN BY	DATE	 SCALE (FEET)	PROJECT ENGINEER: PJS DESIGNED BY: JWJ	DRAWN BY: JWJ REVIEWED BY: PJS	EGGE DIVERSION DAM REMOVAL DESIGN PLAN GOLDEN VALLEY COUNTY, MT	32 DISCOVERY DRIVE BOZEMAN, MT 59718 PHONE (406) 582-0221 FAX (406) 582-5770 www.alliedengineering.com	Civil Engineering Geotechnical Engineering Land Surveying		PROJECT # 14-043	SHEET 4
											DATE: 7/11/14 DESIGN PLAN	
EGGE DIVERSION DESIGN PLAN												

P:\2014\14-043 Musshell River - Egge Diversion\13 CAD-Production\General\Design Plan_5_19.dwg

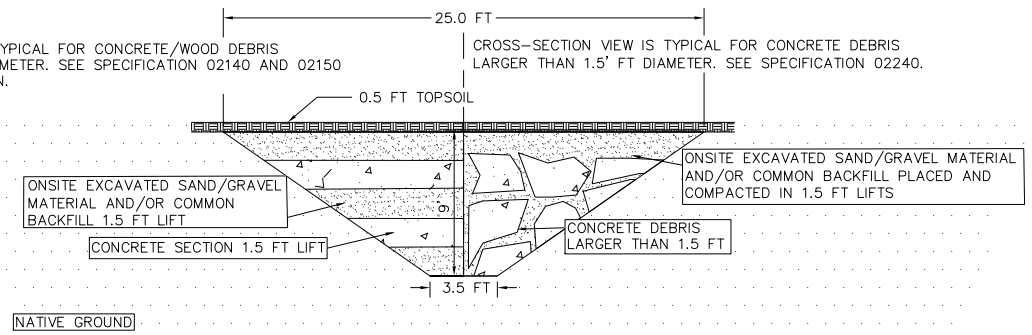


A
4 SECTION
DAM CROSS-SECTION



B
4 SECTION
HEADWALL CROSS-SECTION

CROSS-SECTION VIEW IS TYPICAL FOR CONCRETE/WOOD DEBRIS SMALLER THAN 1.5 FT DIAMETER. SEE SPECIFICATION 02140 AND 02150 FOR DETAILED INSTRUCTION.



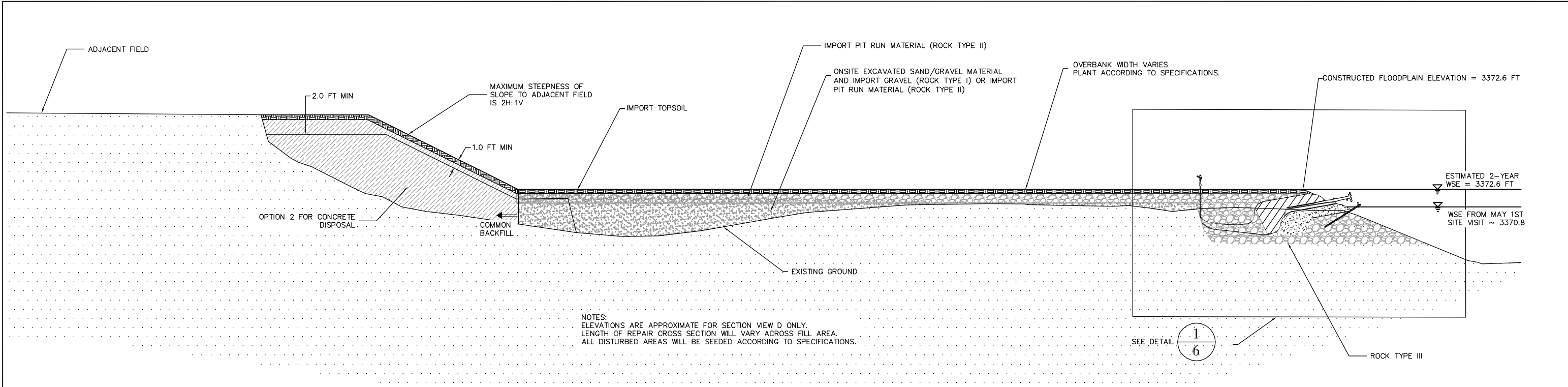
SALVAGE TOPSOIL IN BOTTOM AND SIDES OF CANAL AND USE AS TOPSOIL COVER. EACH SAND/GRAVEL LIFT TO BE COMPACTED TO 90% OF STANDARD PROCTOR DENSITY (ASTM D-698). FINAL TOPSOIL LIFT TO MATCH ADJACENT GROUND. IRRIGATION CANAL DIMENSIONS ARE APPROXIMATE.

NOTES:
CONCRETE DEBRIS SHOULD BE PLACED IN LIFTS AND LOCKED TOGETHER SUFFICIENTLY TO ALLOW MATERIAL TO BE PLACED AND COMPACTED OVER THE TOP. THE FILL AREA SHOULD BE CAPPED WITH A MINIMUM OF 18 INCHES OF MATERIAL INCLUDING SIX INCHES OF TOPSOIL. NO HAZARDOUS MATERIAL SHALL BE BURIED IN THE FILL AREA.

C
4 SECTION
IRRIGATION CANAL CROSS SECTION

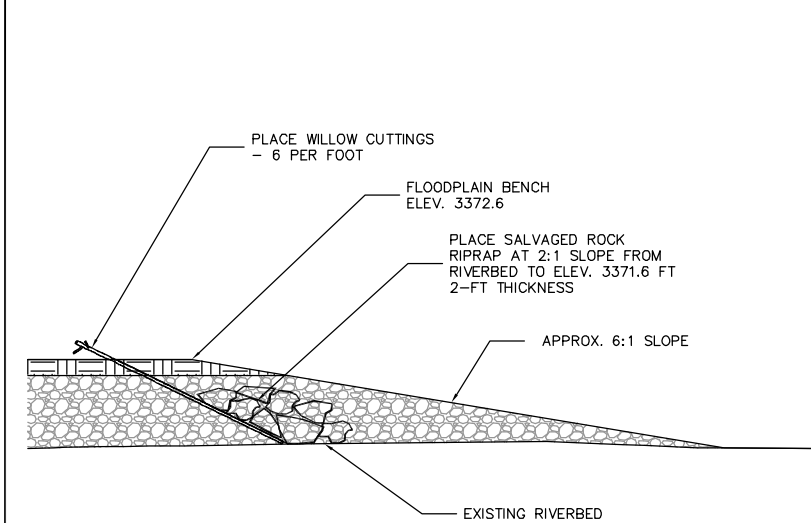
NOTE:
1. CONCRETE DIVERSION DAM DIMENSIONS SHOWN ARE APPROXIMATE. DIMENSIONS VARY ALONG LENGTH OF STRUCTURE.

NO.	REVISIONS	DRAWN BY	DATE	SCALE AS NOTED		EGGE DIVERSION DAM REMOVAL DETAILS GOLDEN VALLEY COUNTY, MT		32 DISCOVERY DRIVE BOZEMAN, MT 59718 PHONE (406) 582-0221 FAX (406) 582-5770 www.alliedengineering.com		Civil Engineering Geotechnical Engineering Land Surveying		ALLIED ENGINEERING SERVICES, INC. Diverse Projects • Solutions That Last		PROJECT # 14-043	SHEET
														DATE: 7/11/14	5
														SECTION VIEWS	
														EGGE DIVERSION DETAILS	
						PROJECT ENGINEER: PJS	DRAWN BY: JWJ								
						DESIGNED BY: JWJ	REVIEWED BY: PJS								

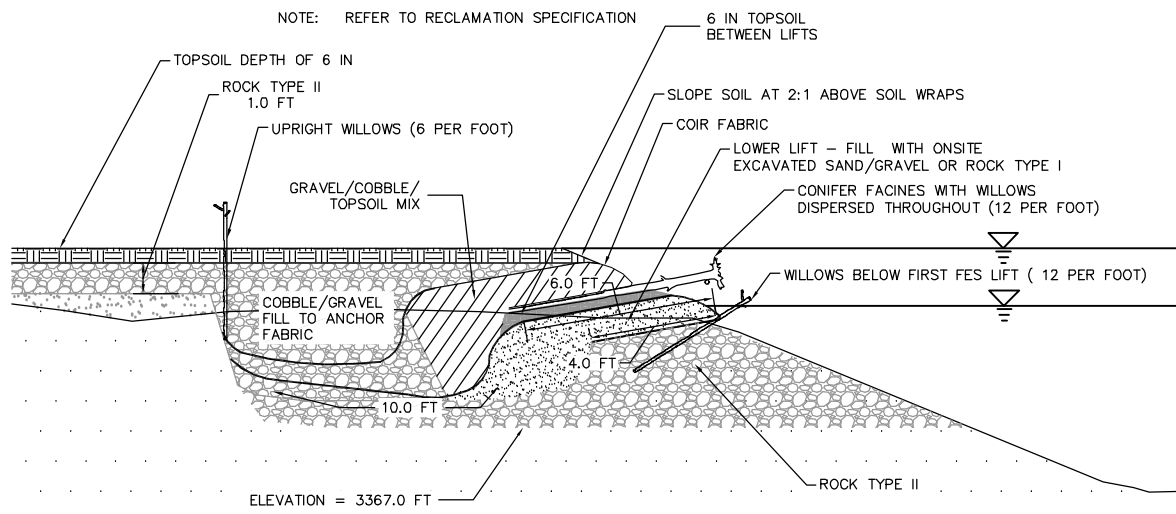
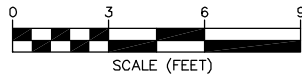


NOTES:
ELEVATIONS ARE APPROXIMATE FOR SECTION VIEW D ONLY.
LENGTH OF REPAIR CROSS SECTION WILL VARY ACROSS FILL AREA.
ALL DISTURBED AREAS WILL BE SEEDED ACCORDING TO SPECIFICATIONS.

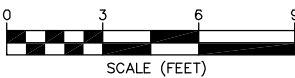
D
4 SECTION
BANK RESTORATION SECTION



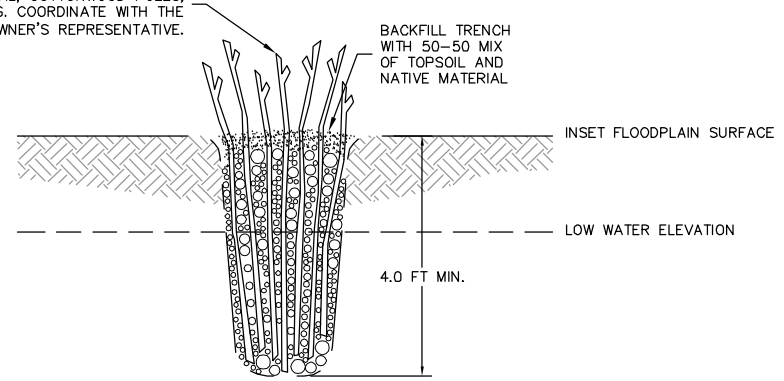
E
4 SECTION
FLOODPLAIN TRANSITION TO RIVERBED



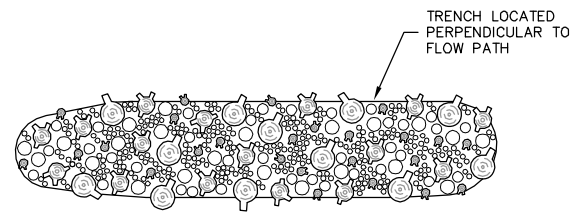
1
6 DETAIL
FABRIC ENCAPULATED SOIL LIFTS



PLACE DEAD BRUSHING MATERIAL, LIVE BRUSHING MATERIAL, COTTONWOOD POLES, AND WILLOW POLES. COORDINATE WITH THE OWNER'S REPRESENTATIVE.



SECTION VIEW



PLAN VIEW

2
6 DETAIL
DETAIL WOODY MATERIAL
NTS

NO.	REVISIONS	DRAWN BY	DATE

SCALE AS NOTED	
PROJECT ENGINEER: PJS	DRAWN BY: JWJ
DESIGNED BY: JWJ	REVIEWED BY: PJS

EGGE DIVERSION DAM REMOVAL
DETAILS
GOLDEN VALLEY COUNTY, MT

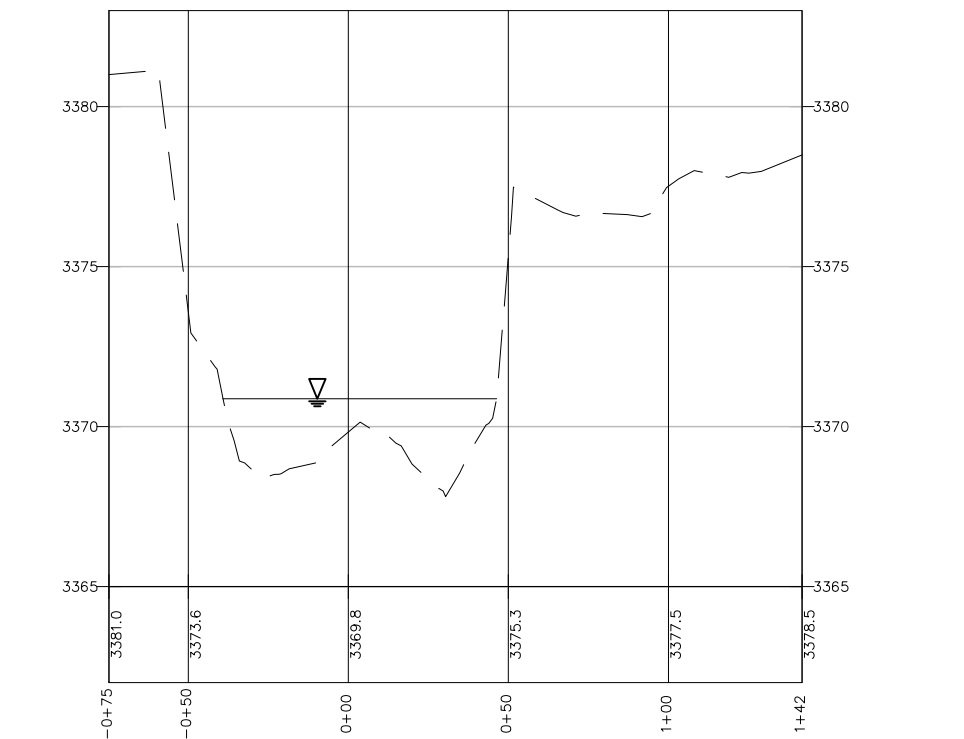
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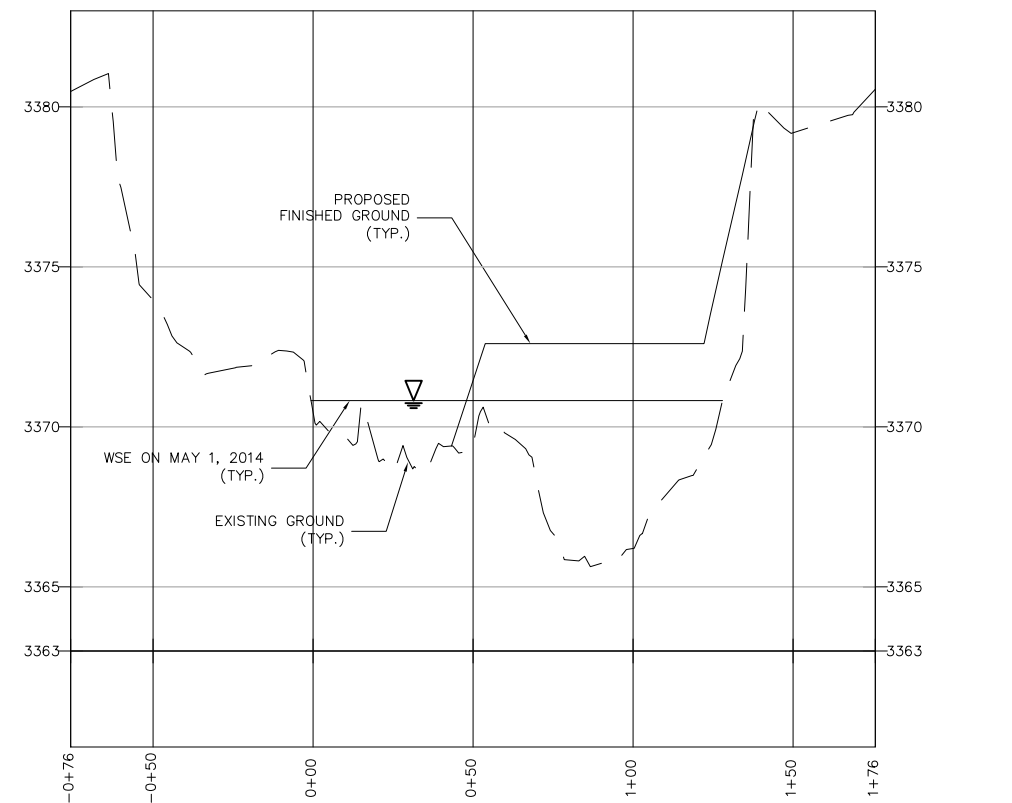
PROJECT #: 14-043
DATE: 7/11/14
SECTION VIEWS
EGGE DIVERSION
SECTION VIEWS

SHEET
6

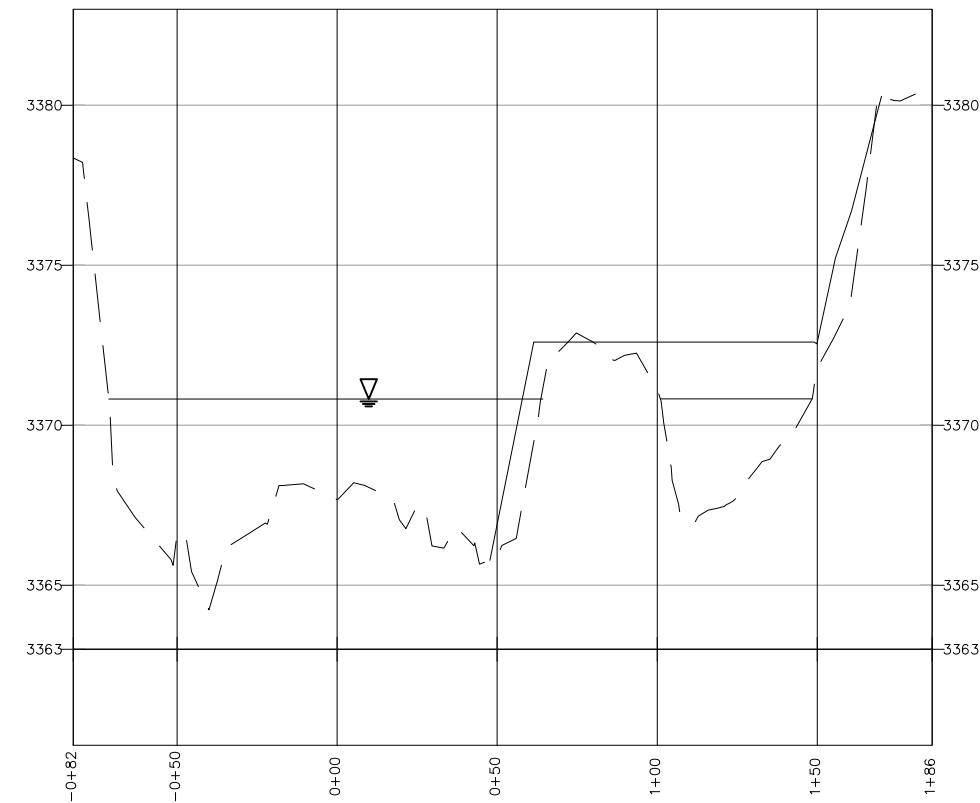
XS @ STA 32+75



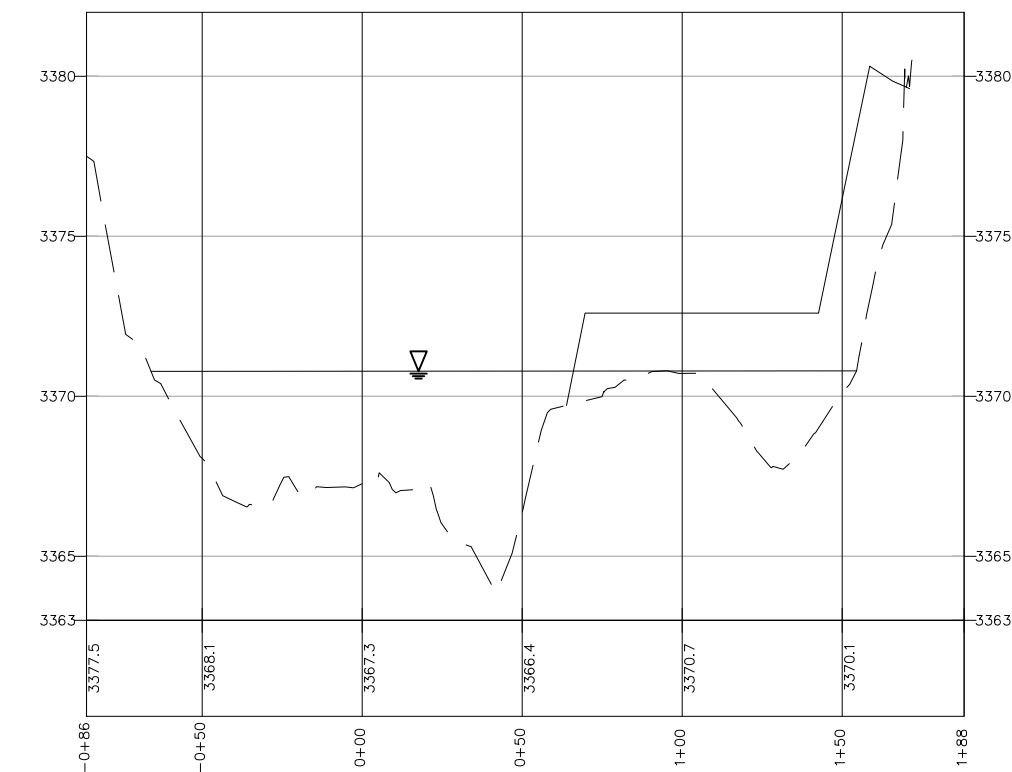
XS @ STA 32+28



XS @ STA 31+82

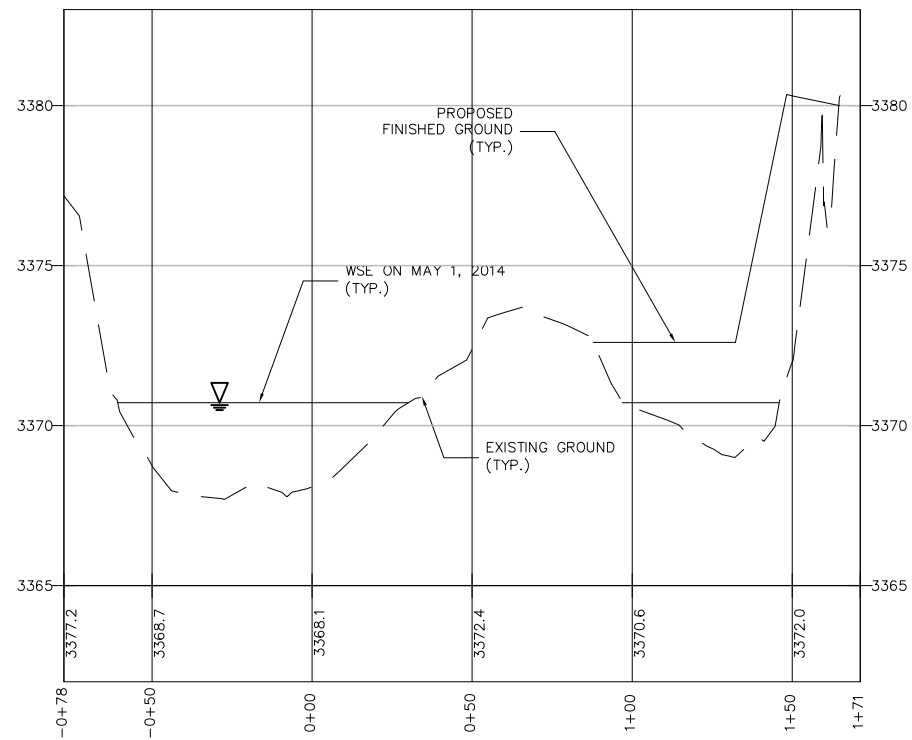


XS @ STA 31+31

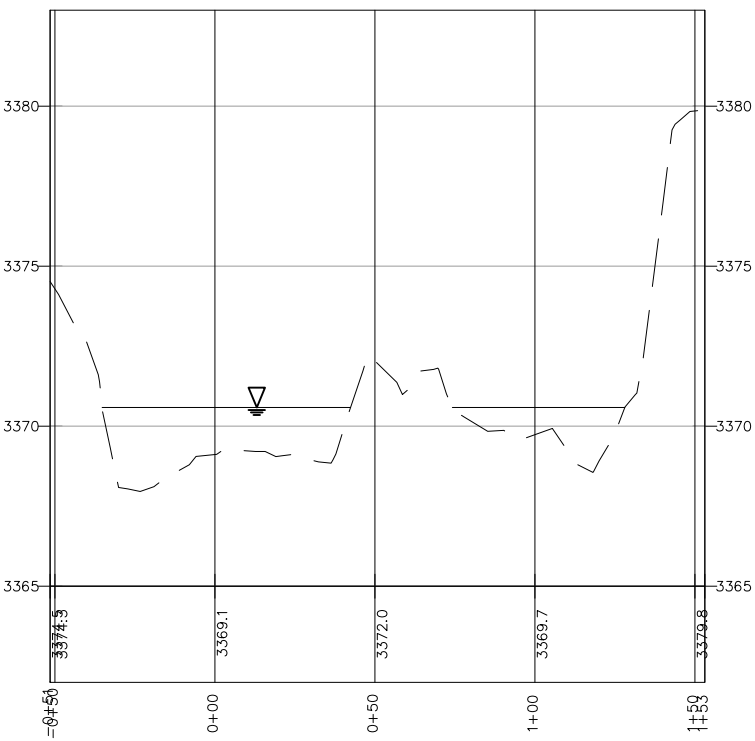


NOTE:
CROSS-SECTIONS VIEWED LOOKING
DOWNSTREAM

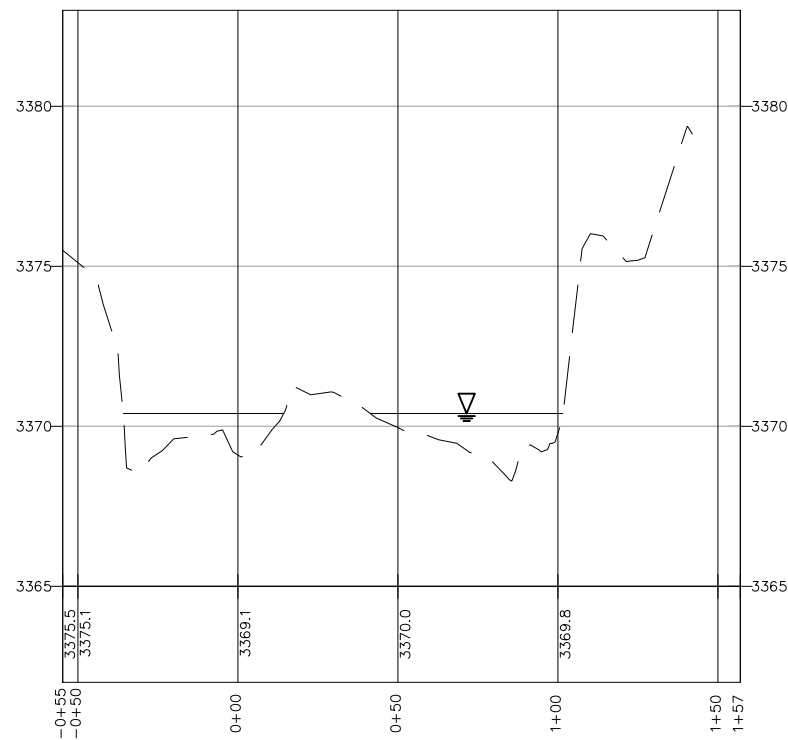
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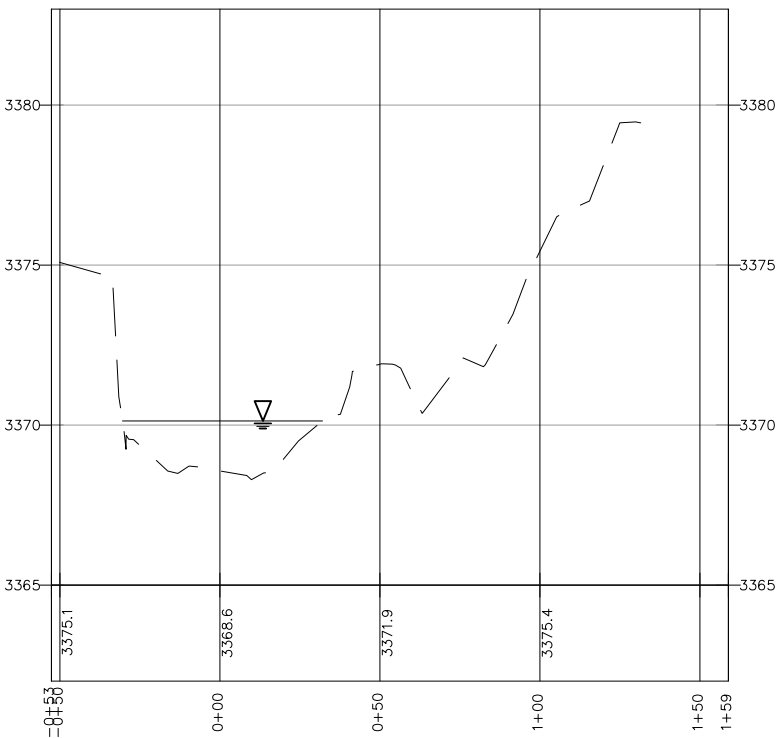
XS @ STA 30+32



XS @ STA 29+82



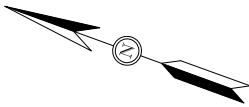
XS @ STA 29+33




NOTE:
CROSS-SECTIONS VIEWED LOOKING
DOWNSTREAM

NO.	REVISIONS	DRAWN BY	DATE	HORIZONTAL SCALE FEET 0 30 60	VERTICAL SCALE FEET 0 3 6	EGGE DIVERSION DAM REMOVAL CROSS-SECTIONS GOLDEN VALLEY COUNTY, MT	32 DISCOVERY DRIVE BOZEMAN, MT 59718 PHONE (406) 582-0221 FAX (406) 582-5770 www.alliedengineering.com	Civil Engineering Geotechnical Engineering Land Surveying	ALLIED ENGINEERING SERVICES, INC. Diverse Projects • Solutions That Last	PROJECT # 14-043	SHEET
										DATE: 7/11/14	8
										CROSS-SECTIONS	
										EGGE DIVERSION PROJECT OVERVIEW	

NOTE: REFER TO SECTIONS
02210, 02220, 02600,
02700 AND 02710 IN THE
SPECIFICATIONS



NO.	REVISIONS	DRAWN BY	DATE

 SCALE (FEET)	
PROJECT ENGINEER: PJS	DRAWN BY: JWJ
DESIGNED BY: JWJ	REVIEWED BY: PJS

EGGE DIVERSION DAM REMOVAL
BEST MANAGEMENT PRACTICES PLAN
GOLDEN VALLEY COUNTY, MT

32 DISCOVERY DRIVE
BOZEMAN, MT 59718
PHONE (406) 582-0221
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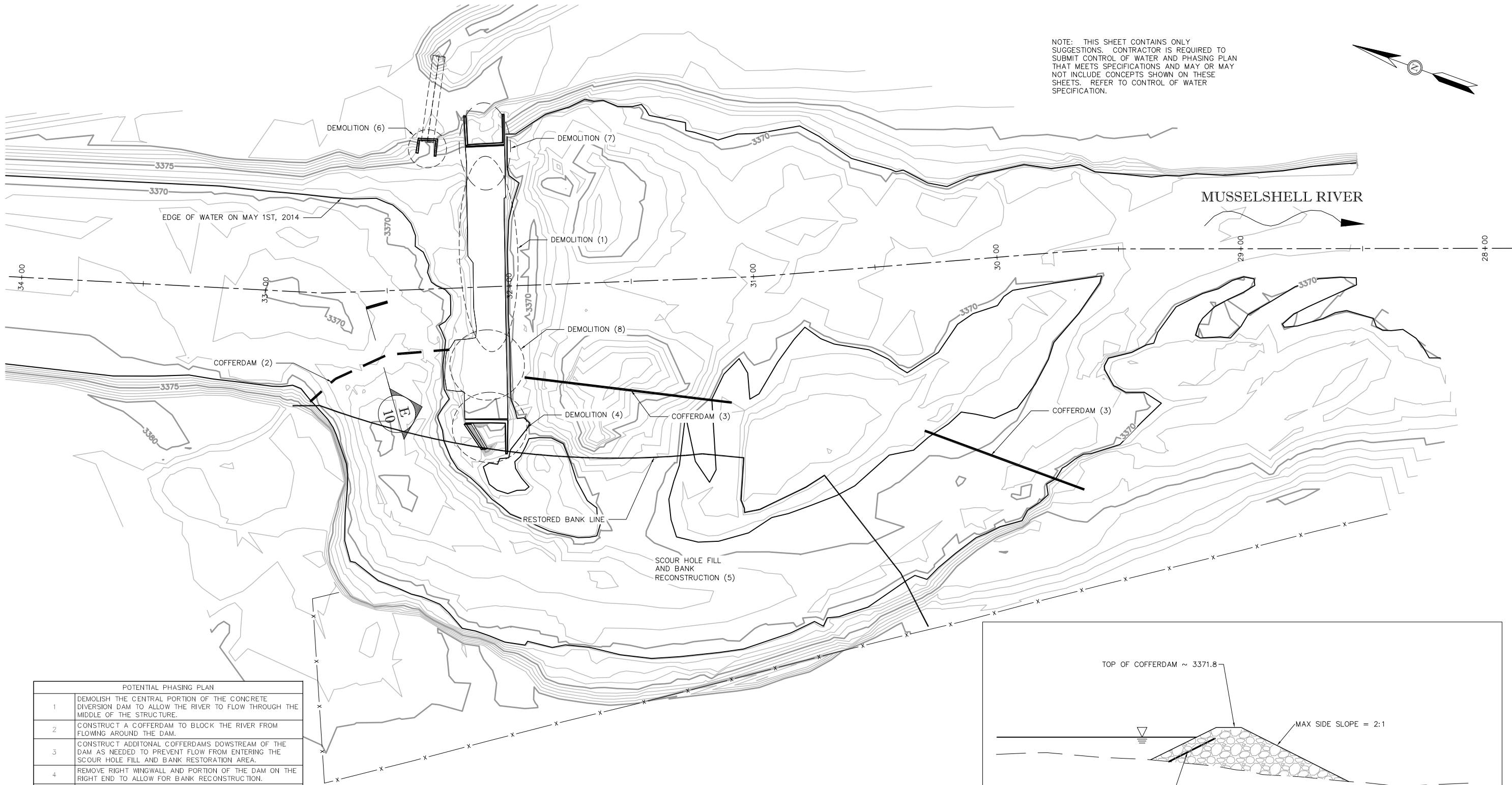
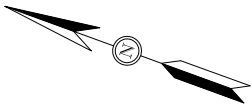
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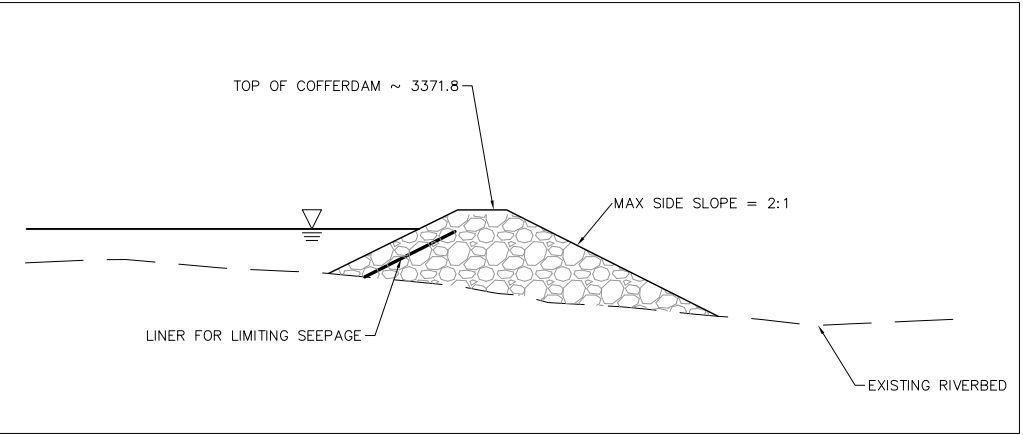
PROJECT #:	14-043	SHEET 9
DATE:	7/11/14	
BMP PLAN		
EGGE DIVERSION BMP PLAN		

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NOTE: THIS SHEET CONTAINS ONLY SUGGESTIONS. CONTRACTOR IS REQUIRED TO SUBMIT CONTROL OF WATER AND PHASING PLAN THAT MEETS SPECIFICATIONS AND MAY OR MAY NOT INCLUDE CONCEPTS SHOWN ON THESE SHEETS. REFER TO CONTROL OF WATER SPECIFICATION.



POTENTIAL PHASING PLAN	
1	DEMOLISH THE CENTRAL PORTION OF THE CONCRETE DIVERSION DAM TO ALLOW THE RIVER TO FLOW THROUGH THE MIDDLE OF THE STRUCTURE.
2	CONSTRUCT A COFFERDAM TO BLOCK THE RIVER FROM FLOWING AROUND THE DAM.
3	CONSTRUCT ADDITIONAL COFFERDAMS DOWSTREAM OF THE DAM AS NEEDED TO PREVENT FLOW FROM ENTERING THE SCOUR HOLE FILL AND BANK RESTORATION AREA.
4	REMOVE RIGHT WINGWALL AND PORTION OF THE DAM ON THE RIGHT END TO ALLOW FOR BANK RECONSTRUCTION.
5	FILL THE SCOUR HOLE AND RECONSTRUCT THE BANK.
6	DEMOLISH THE HEADGATE.
7	DEMOLISH THE REMAINING LEFT SIDE OF THE CONCRETE DIVERSION DAM.
8	DEMOLISH THE REMAINING RIGHT SIDE OF THE CONCRETE DIVERSION DAM.
9	REMOVE THE PHASE 3 COFFERDAMS.
10	REMOVE THE PHASE 2 COFFERDAM.



E
10 SECTION
COFFERDAM

NO.	REVISIONS	DRAWN BY	DATE

0 20 40 60 SCALE (FEET)	
PROJECT ENGINEER: PJS	DRAWN BY: JWJ
DESIGNED BY: JWJ	REVIEWED BY: PJS

EGGE DIVERSION DAM REMOVAL
CONTROL OF WATER OVERVIEW
GOLDEN VALLEY COUNTY, MT

32 DISCOVERY DRIVE
BOZEMAN, MT 59718
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PROJECT #: 14-043
DATE: 6/6/14

EGGE DIVERSION
CONTROL OF WATER

SHEET
10

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